

DEPARTMENT OF PHYSICS  
PHYSICS 2A (a), (b), & (c)

Winter Quarter, 2009

**INSTRUCTOR:** Ivan K. Schuller  
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**OFFICE:** 3661 Mayer Hall Addition, Ext. 42540  
**OFFICE HOURS:** Mon. 1-2, Tues. 1-2  
**COURSE COORDINATOR:** Patti Hey, 118 Urey Hall Addition, Ext. 21468  
**TEACHING ASSISTANT:** 2Aa: Sean Rogers; E-mail: [srogers@physics.ucsd.edu](mailto:srogers@physics.ucsd.edu)  
2Ab: Casey Conger; E-mail: [caconger@physics.ucsd.edu](mailto:caconger@physics.ucsd.edu)  
2Ac: David Olson; E-mail: [daolson@ucsd.edu](mailto:daolson@ucsd.edu)

Course Schedule:

	A			B			C		
	DAY	TIME	PLACE	DAY	TIME	PLACE	DAY	TIME	PLACE
<b>LECTURES</b>	<b>MWF</b>	9:00 – 9:50 a.m.	WLH 2001	<b>MWF</b>	10:00 – 10:50 a.m.	WLH 2001	<b>MWF</b>	11:00 –11:50 a.m.	WLH 2001
	<b>TU</b>	6:30 – 7:20 p.m.	Solis 107	<b>TU</b>	7:30 – 8:20 p.m.	Solis 107	<b>TU</b>	8:30 – 9:20 p.m.	Solis 107
<b>QUIZZES</b>	<b>F</b>	9:00 – 9:50 a.m.	WLH 2001	<b>F</b>	10:00 – 10:50 a.m.	WLH 2001	<b>F</b>	11:00 –11:50 a.m.	WLH 2001
<b>DISCUSSIONS</b>	<b>W</b>	7:00 – 7:50 p.m.	Center 212	<b>W</b>	7:00 – 7:50 p.m.	Center 214	<b>W</b>	7:00 – 7:50 p.m.	Center 216
<b>PROBLEM SESSIONS</b>	<b>TH</b>	8:00 - 9:50 p.m.	York 2622	<b>TH</b>	8:00 - 9:50 p.m.	PCYNH 106	<b>TH</b>	8:00 – 9:50 p.m.	WLH 2005

**COURSE TEXT:**

Wolfson and Pasachoff, Physics for Scientists and Engineers 3<sup>rd</sup> Edition, Addison Wesley (ISBN 0-0321-3571-2).

**Additional Recommended Materials:**

Ginsberg, Student Solutions Manual, to accompany Wolfson and Pasachoff, Physics for Scientist and Engineers, Addison Wesley (ISBN 0-321-03575-5).

**Other References:**

Fishbane Gasiorowicz & Thornton, Physics for Scientists and Engineers, Second Edition, Prentice Hall (ISBN 0-13-231176-3).

Young & Fredman, Sears and Zemansky's University Physics, Tenth Edition, Addison Wesley (ISBN 0-201-60322-5).

Halliday, Resnick & Walker, Fundamentals of Physics, Sixth Edition, Wiley

**COURSE FORMAT:**

This is the first quarter of a four-quarter introductory physics sequence. The course is aimed at students majoring in science and engineering (e.g. computer science, mathematics, biology, chemistry, pre-med).

**Prerequisites:** Math 20A, and concurrent enrollment in Math 20B. There will be no exceptions.

**Discussion Section:** These will be informal periods focusing on Understanding of theory and methodology and problem solving. You are advised to attend them and to make them successful by active participation. Your problem session TA will be happy to answer any questions concerning the lecture material or the problems at the end of the chapters. Discussion sections are scheduled to facilitate the review of the topic and the preparation for the quiz on Friday.

## HOMEWORK ASSIGNMENTS:

There will be no official homework assignments to be handed in, but you are expected to study the examples in the text and work out the assigned problems at the end of each chapter. Your grade in the course will be determined by how well you can answer questions and do problems such as these. Note that the quiz and exam problems will not be exactly equal to the ones in the homework.

**QUIZZES:** Weekly quizzes will be given on Friday in accordance with the schedule given in the Lecture & Quiz Schedule.

1. Before the first quiz you will be assigned a code number. This number will be your code number for the session and will be used on each quiz thereafter in place of your name. **Save this number. Commit it to memory.**
2. You will have to provide your own scantron card, scantron form No. 20788-PAR. These are sold at the library for about \$0.15 each. You will need a No.2 pencil to fill in the scantron card. **No scantron card or no pencil, no credit for the quiz.** You should write your name, code number, and course number on the space provided. Detailed instructions will be given by the proctor at the first quiz.
3. You may bring a calculator to the quiz (but not a laptop computer). You may bring a cheat-card: must be a 5 x 7 handwritten card (you may use both sides). You should bring a couple of pieces of blank paper on which to work out the problems.
4. Recorded grades, listed by code number, will be available on the web.
5. Any appeal to the grading of quizzes should be made in writing to the teaching assistant, within one week of the posting of the grades for that quiz. You must provide a written explanation as to why you are appealing the grade (be specific). Appeals sent to the course instructor will be ignored.
6. Each quiz will be based on current study. It will be "closed-book".
7. The 6 best quizzes out of 8 given during the quarter will be counted toward the final grade.
8. There will be no makeup quiz, for medical or other reasons. If you anticipate missing more than 2 quizzes for serious reasons, see the instructor beforehand.
9. The quizzes will count 70% toward the final grade.

FINAL EXAM AND COURSE GRADE SCHEDULE: Week of March 16 – 21, 2009.

	A			B			C		
	DAY	TIME	PLACE	DAY	TIME	PLACE	DAY	TIME	PLACE
<b>Final Exams</b>	<b>WED</b> <b>3/18/09</b>	8:00 – 10:59 a.m.	WLH 2001	<b>FRI</b> <b>3/20/09</b>	8:00 – 10:59 a.m.	WLH 2001	<b>MON</b> <b>3/16/09</b>	11:30 - 2:29 p.m.	WLH 2001
Course Grade	Quizzes – 70% (best 6 of 8)						Final Exam – 30%		

**It will not be possible to take the exam at any other time for any reason.** Any appeal to the grading of the final exam should be made in writing (e-mail OK) to the instructor, within 24 hours of the posting of the grades. You must provide a written explanation as to why you are appealing the grade (be specific).

**WHOM TO SEE:**

*Sharmila Poddar*, 116 Urey Hall Addition, Physics Dept. Student Affairs Office, if you have any trouble using StudentLink/WebReg to add/change/drop, drop from wait-lists, getting the appropriate authorization for such actions, and if you need extra course handouts.

The *Teaching Assistant* if you have questions relating to problem solving methods or grades received on quizzes.

The *Instructor*, if you have basic questions about the subject matter, or if you have administrative problems.

**ADD/DROP:**

Use StudentLink/WebReg to add/change/drop, drop from wait-lists.

**No add/drop cards will be signed by the instructor or TA.**

**DEADLINES:**

Last day to add.....	<b>Friday, January 16</b>
Drop without "W" on transcript.....	<b>Friday, January 30</b>
Drop without penalty of "F" (and with "W" appearing on transcript).....	<b>Friday, March 6</b>

**No drops allowed after Friday, March 6**

**ACADEMIC DISHONESTY:**

Please read "Responsibility for Disposition of Cases of Academic Dishonesty" in the UCSD General Catalog. The rules on academic dishonesty will be strictly enforced.

**REMEMBER**

This is considered by students to be a difficult course.

- Calculus will be used extensively.
- Study after every class, starting with the first class.
- Do all homework on time and attend discussion sections.
- Do not expect quiz and test problems which are identical to the homework ones. You must understand concepts, not just physics numbers.
- No excuses whatsoever will be accepted for skipping quizzes or tests.
- Participate actively in the class, ask questions, etc.
- Film and Video Reserves (Geisel Library, 1<sup>st</sup> floor, west side) carries a series of taped lectures by Prof. Goodstein from CalTech.

Title: Gravity, Electricity & Magnetism  
 (The Mechanical Universe and Beyond)  
 Call #: FVLV 1642-26, volume 6

Viewing this tape may help you out greatly and is strongly recommended.

## TENTATIVE COURSE OUTLINE

PHYSICS 2A (a), (b), & (c)  
I. K. Schuller

January 2, 2009  
Winter Quarter 2009

WEEK OF	CHAPTER	QUIZ (Date)	ASSIGNED PROBLEMS
1/5/09	Doing Physics, Ch. 1 Motion in a Straight Line, Ch. 2	<u>No Quiz</u>	Ch. 1 -7, 13, 27, 35, 37, 49 Ch. 2 -13, 25, 33, 35, 37, 55, 69
1/12/09	Vector Desc. of Motion, Ch. 3 Motion in More Than One Dimension, Ch. 4	(January 16)	Ch. 3 -7,13, 43, 47 Ch. 4 -13, 29, 47, 53
1/19/09	Force and Motion, Ch. 5	(January 23)	Ch. 5 - 13, 19, 33, 39, 51
1/26/09	Using Newton's Laws, Ch. 6	(January 30)	Ch. 6 - 3, 19, 21, 33, 49, 53
2/2/09	Work, Energy and Power, Ch. 7 Conservation of Energy, Ch. 8	(February 6)	Ch. 7 - 7, 21, 31, 35, 51, 67 Ch. 8 - 3, 17, 35, 41, 47, 59
2/9/09	Systems of Particles, Ch. 10 Collisions, Ch. 11	(February 13)	Ch. 10 - 3, 9, 27, 37, 41 Ch. 11 - 9, 13, 27, 45, 47
2/16/09	Rotational Motion, Ch. 12 Rotational Vectors, Angular Momentum, Ch. 13	(February 20)	Ch. 12 - 13, 23, 27, 45, 51, 47 Ch. 13 - 5, 9, 29, 33
2/23/09	Static Equilibrium, Ch. 14	(February 27)	Ch. 14 - 7, 11, 15, 31, 39
3/2/09	Oscillatory Motion, Ch. 15	(March 6)	Ch. 15 - 13, 16, 21, 25, 34, 35
3/9/09	Gravitation, Ch. 9		Ch. 9 - 11, 17, 45, 51

FINAL EXAM (see page 2)